

## Original Paper

# The Use of Language Learning and Teaching Material from a Perspective of Embodied Cognition

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### Abstract

*The use of Language Learning and Teaching (LLT) materials directly affects the realization of the function of LLT materials, language teaching and learning effects. The traditional teaching ideas that teach what has said on the textbook ignoring the dynamic interaction of students' body, cognition and environment, which caused physical and mental separation, and affects the embodied experience of language learning process. Teachers should change the way LLT materials are used to promote students' embodied experience and effectiveness of language learning in both cognitive and behavioral level. Based on the embodied cognition theory, this qualitative study will examine how an EFL teacher used the different LLT materials practice the embodied English language teaching in Primary School. This study also attempts to examine verify the acceptability and effectiveness of embodied English teaching through practice.*

### Keywords

*LLT material use, primary English teaching, embodied cognition, experiential learning*

## 1. Introduction

Under the background of exam-oriented education, traditional English language teaching process in primary schools is usually dominated by teachers and the indoctrination of knowledge. More attention are paid to the accumulation of knowledge and the growth of grade, but little to students' physical and mental state. This kind of trend leads to "cramming" phenomenon, ignoring students' individual embodied experience of language learning. Although many English teachers try to change the style of teaching and promote the effectiveness of language teaching, it seems that they still can not get rid of the traditional teaching philosophy. The role of students' bodies, emotions, attitudes and experience has not been explored in a real sense. Thus, more attention should be paid to the value of students' life experience and the meaning construction in their embodied experience of English language learning (Wang, 2007).

Meanwhile, the role of LLT materials should be sure of a place in classroom ecology (Guerrettaz & Johnston, 2013). Embodied cognition theory emphasizes context, embodiment, and interaction, which conforms to the characteristics of primary school teaching (Yang, 2015, pp. 3-10). Therefore, embodied cognition theory can help English teachers, according to the learning context, optimize their teaching methods, the way LLT material used, and promote both students' understanding of English language and embodied experience of language learning. Because "...the human mind -- and therefore language -- cannot be investigated in isolation from human embodiment" (Evans & Green, p. 44). Our cognition comes from the body, the body also affects cognition. "In other words, our construal of reality is likely to be mediated in large measure by the nature of our bodies" (Evans & Green, p. 45). In language learning, cognition, body and the environment are integrated, which jointly promote the development of learners' behavior. Embodied cognition emphasizes the participation of mind and body in experience and in the interaction of physical environment. LLT materials, as an important part of classroom environment, should take more interaction with the language teaching and learning.

This study examined teacher's LLT material use in English language teaching class from a embodied cognition perspective in primary schools, aiming to stimulate students' learning interest and promote efficient language learning in primary school English classes. This study also provided theoretical and practical significance. Embodied cognition, as a theory of psychology, has been applied to the field of education, and also been a central idea in cognitive linguistics (Evans & Green, 2006). This study explains the LLT material use in design of English teaching from an embodied cognition, which provides a new way for primary school English teaching and a new perspective for LLT material research. It also examines how human body play a role in cognition, and promote language learning. Thus, this study contributes to the application of the embodied cognition theory in practice of language teaching. Meanwhile, it provides some practical implication for English language teaching by taking learners' embodied experience into consideration. Teachers should take develop LLT materials according to different embodied experience, and carry out metaphor teaching to promote students' schematic construction of abstract knowledge in LLT materials.

## 2. Literature Review

### 2.1 Language Learning and Teaching Materials (LLT materials)

In recent years, empirical inquiry into how materials are used in language learning settings like classrooms has emerged as a "groundbreaking" area of research. Generally speaking, language learning and teaching materials refer to materials for language learning and teaching, which can be defined from macro level and micro level. In a broad sense, language learning materials are all materials used for learning, such as textbooks, handouts, readings, online resources, newspapers, magazines and etc. In a narrow sense, it mainly refers to textbook utilized by students in class (Li, 2008).

Tomlinson and Masuhara (2017) defined materials as "*anything* that can be used by language learners to facilitate their learning" (p. 2). Similarly, Guerrettaz and Johnston (2013) described materials as "*any*

*artifacts* that prompt the learning and use of language in the language classroom” (p. 779). These definitions suggest that LLT materials comprise a much greater diversity of entities than textbooks alone, which is the narrow focus of most existing language learning and teaching materials research. Moreover, though these definitions allow for many ‘kinds’ of materials, such vague descriptions of materials as “anything” (Tomlinson & Masuhara, 2018) or “any artifact” (Guerrettaz & Johnston, 2013) leave researchers in need of more concrete and exacting language and constructs for different types of materials. The existing definitions (Tomlinson & Masuhara, 2018, p. 2; Guerrettaz & Johnston, 2013, p. 779) overlook the complexities of materials, including how they affect language learners and teachers, language pedagogy, and language use, and (b) focus on limited types of materials—namely, textbooks. Existing definitions of ‘LLT materials’ tend to be vague and, in many instances, overly focused on the out-of classroom development of materials. Based on seven empirical studies of material use (Engman & Hermes, 2021; Guerrettaz, 2021; Harwood, 2021; Hasegawa, 2021; Kim & Canagarajah, 2021; Matsumoto, 2021; Sert & Amri, 2021), Guerrettaz et al. (2021) define the LLT materials as follows: (a) physical entities, (b) texts, (c) environments, (d) signs, and (e) technologies within the perceptual field of the learner(s) or teacher(s); these are used with the ultimate intention of facilitating LLT and in some sort of principled way. It is observable that the concept of language learning and teaching material has been greatly extended. Not only textbook, laptop computer, online dictionary, but anything that belongs to those five categories and can facilitate learning can be counted as language learning and teaching materials. According to the empirical nature of this study and the various language learning materials the participants used in their study, this study will take Guerrettaz et al.’s categories as a working definition to explore how the EFL teacher use various LLT materials in design of the embodied English language teaching.

## 2.2 LLT Material Use

The term “material use” has been put forward for several decades. Decades ago, Hutchinson’s (1996) unpublished thesis described materials use as a “dynamic and complex interaction of the teacher, learners and the textbook itself (...) influenced by a number of factors” (p. ii). More recently, Matsumoto (2019) defined ‘materials use’ as “the ways that participants in language learning environments actually employ and interact with materials” (p. 179). Both recent definitions of ‘materials use’ come from empirical research and underscore ‘interaction and action’ with LLT materials, though the nature of these remains unclear. Furthermore, these vague definitions fail to address other dimensions and complex phenomena that materials use seemingly involves (Guerrettaz et al., 2021).

Therefore, while proposing the definition of language learning and teaching materials, Guerrettaz et al. (2021) also clearly defined material use. Guerrettaz et al thought “In language learning and teaching, *materials use* refers to entangled and emergent intra-action(s) among the teacher(s) and/or learner(s) and one or more LLT materials, which are precipitated by human participants but realized through distributed agency” (2021, p. 16). In their definition, several terms are pivotal, namely, the teacher, learner, LLT materials, and agency. This definition emphasized the interrelation between those terms rather than

focused on materials separately. Thus, it provides a operative definition for the study of dynamic material use.

### 2.3 Previous Studies on LLT Material Use

Foreign research on language learning and teaching material use mainly focused on the use of textbook in early times. Since 21st century, foreign scholars realized the insufficiency of textbook research by only textual analysis and began to advocate the research on the textbooks' actual use. Therefore, the research on English textbook has been furthered to a certain degree in this period. For example, Tomlinson and Masuhara (2017) investigated how English teachers compile and select teaching materials. They found teacher's principle of textbook compilation, selection and use, such as additions, deletions, adjustments, simplifications and expansions of content. They seldom considered the learner and the learning effects associated with the LLT materials. Harwood (2014) systematically expounded the development, design, and use of LLT materials. He fully considered the needs of learners, and makes up for the deficiencies in the research development of English textbooks.

In terms of the use of textbooks by teachers, research in developing countries are mainly focused on teachers' actual use of textbooks and differences in textbook use. However, American scholars focus on the prevalence of textbook use and how teachers plan and teach through textbooks. Obviously, the latter paid more attention on the relation between language teaching and LLT material use. Also, LLT material use endowed the classroom "unpredictability" (Guerrettaz, 2021, p. 16). Menkabu and Harwood (2014) discussed different teachers' conceptualization and use of learning material in a medical English course by the metaphor of the textbook; similar study was showed in Zacharias's (2005). In one word, their study revealed that the textbook is indispensable in language teaching. In addition, Toledo (2020) adopted the random sampling method to explore how teachers add cultural representation in the use of textbooks. The study showed a creative use of textbook. Carabantes and Paran (2022) discussed the teacher's design of learning material for their class by adopting the activities in another textbook. Grammatosi and Harwood (2014) investigated an experienced teacher's use of textbook on an academic English course, proving that teacher's use of textbook was affected by teacher's professional knowledge and students' characteristics.

Differently, Hadley (2014), Jakonen (2015) and Rather (2017) examined the effectiveness of teacher's use of material. Also, teacher's enactment of curriculum material has also been deeply explored (Li, 2020; Li, 2021; Li & Harftt, 2018; Li & Harftt, 2017; Li & Xu, 2020; Li & Xu, 2021;). Ulla and Perales (2021) found that language teacher can act as material writer because they may according to the class develop personal textbook.

Students' employment of textbooks also been a research focus in recent years. Matsumoto (2021) examined both teacher and students' use of material in multilingual writing classroom interactions. The study showed that there exist close association between teacher and students' use of material in the classroom ecology. In addition, in a special issue in the *Modern Language Journal*, some scholars specifically researched the various LLT materials that students used, which include smartphone, land,

natural environment, students-generated materials, activities, etc. (Engman & Hermes, 2021; Guerrettaz, 2021; Harwood, 2021; Hasegawa, 2021; Kim & Canagarajah, 2021; Matsumoto, 2021; Sert & Amri, 2021). Those studies greatly expanded the definition of language learning materials.

In the past 20 years, domestic LLT material use research has made some progress in theory, empirical research and method discussion (Tao & Gu, 2020). Many scholars introduced research perspectives, such as POA (Bi, 2010) theory, embodiment experience (Zuo & Wang, 2021; Liu & Jiao, 2021), and the analysis of learners' acceptance of learning materials, the function of material, etc. Some scholars even put forward that students are at the core of LLT materials, thus encouraging more research on use of LLT material from students' perspective (Xu & Liu, 2023).

In terms of empirical studies, in recent decade, some scholars have investigated the status quo of LLT material use of teachers and students. For example, some scholars found that college teachers lack autonomy in selecting and using textbooks (Zhang & Song, 2014; Paik, 2014; Zhang et al., 2021a). By investigating students' use of textbooks, some scholars found that students are very dependent on textbooks. It can be seen that there are differences in LLT material use among the students and teachers. At the same time, the use of teaching materials can also reflect the problems existing in the teaching materials. For example, Zhang et al. (2021b) investigated the use of textbook in Chinese universities and found that there were some problems in the content, genre and cultural characteristics of teaching materials.

Other scholars focused on the process of LLT materials use. For example, research on teaching material use strategies found that teachers adopt reading, evaluation, adding, deletion, modification, adjustment, replacement, supplementation and omission, reflection and improvement strategies toward teaching materials (Xu & Fan, 2017). At the same time, the textbooks also functioned as a mediational tool for teaching and learning activities, such as using to prepare lessons, giving lessons, design the final examinations, etc. (Lin & Zhan, 2015; Han et al., 2021). Su et al. (2023) Based on the theory of language socialization, conducted an ethnographic study to explores the acceptance behavior of six foreign language undergraduates to professional textbooks. The results show that students' acceptance behavior of teaching materials is mainly manifested in teaching material understanding, strategy use and emotional experience. The results show that students' individual agency and their interaction with teachers and teaching materials affect students' learning behavior. The study suggested that the future LLT materials research should pay attention to students' individual experience in the use of teaching materials.

In the mean while, the effects of using LLT materials were also examined. Some scholars found use of textbooks can influence the students' thinking (Zhang & Yang, 2023), language awareness (Chan, 2017), learning of pragmatic knowledge (Barón & Celaya, 2022) and writing skills (Sukmawan et al., 2021), learning motivation and attitude. For example, the use of video games can improve students' motivation to learn language (Shakhmalova & Zotova, 2023). Technology, as a kind of LLT material (Guerrettaz et al., 2021) also exert influence on student's learning. For example, translation software and electronic

textbooks APP have proved to have a positive role in promoting students' learning achievement (Chang & Chen, 2022; Xodabande & Hashemi, 2022).

At present, the research on textbook use in primary school is of insufficiency. The perspective of textbook research needs to be transferred urgently from text to classroom, from the textbook object to teacher-student subject and from the description analysis to practical application (Chang & Yang, 2023). What's more, more attention should be paid to textbook practice and the interactive relationship in practice (Li & Cheng, 2023). Thus, based on the above mentioned, this study tries to answer the following two questions by concentrating on teacher and LLT material, and the language teaching in English class.

- 1) How teacher use the LLT materials in design and practice of embodied English language teaching?
- 2) What are students' attitude and individual experience in the embodied English language teaching?

#### *2.4 Embodied Cognition and English Language Teaching*

In the field of cognitive linguistics, Lakoff and Johnson (1999) proposed that cognition cannot be separated from the body. Human cognition and experience are embodied, and thus name the second generation of cognitive science "embodied cognition", which makes up for the defect of "mind/body dualism" of the early cognitive science (Evans & Green, 2006, p. 46). At the same time, they proposed three hypotheses about embodied cognition: the mind is embodied in nature; thinking is mostly unconscious; abstract concepts are mostly metaphorical (Lakoff & Johnson, 1999, pp. 36-58). Among them, "mind is embodied" is its core idea. That is, it emphasizes that human cognitive activities are based on its physiological structure, the process of sensory perception and movement, and the interaction between body and environment.

Rosch et al. (1993) proposed that "embodiment" should be understood from two perspectives: First, our perception of the world stems from our body's sensorimotor system; Second, the sensorimotor system is embedded in the body, and the body is embedded in the environment. For example, in their experiment, Williams and Bargh (2008) found that when the subjects got a cup of hot coffee, they think the staff is enthusiastic, while when they got a cup of cold coffee, they think the staff is indifferent. This suggests that body's experiences of temperature can affect impressions of others, and that the body and the interaction between the body and the environment can affect cognition (pp. 606-607).

Ye (2010) interprets embodied cognition from three aspects: first, the body provides the content of cognition; secondly, body affect cognition; finally, cognition exists in the body, and the body exists in the environment, and the three is a unity. Therefore, context is vital to cognition (pp. 705-710). In short, the embodied cognition emphasizes the embodiment, experience, and contextualized process of the subject's cognition.

From a embodied cognition perspective, designing English teaching by using various LLT materials, students can not only rely on the abstract knowledge in the textbooks, but also experience and internalize the knowledge with their bodies in the environment. The present English teaching in most class in China emphasizes "input" of knowledge, but ignores the process of learner experiencing the knowledge. Traditional cognitive science advocates the mind/body dualism. In language teaching and learning, the

development of students' thinking ability and the acquisition of objective knowledge are required. Although its' contribution to the traditional classroom, it also causes lacks of knowledge construction and communication (Wang et al., 2014). Embodied cognition challenges the traditional concept. It advocates the contextualization and interaction of language teaching and learning. Students can experience, discover and internalize knowledge in the interaction between the body and the environment (Ye, 2015).

### 3. Methods

This study takes a qualitative method to explore the teacher, Cherry's design and practice of embodied English language teaching by using various LLT material and students' attitude and experience toward such kind of class. The following parts will introduce the context, participants, data collection and data analysis methods.

#### 3.1 The Context of the Study

This classroom-based research is set in a Grade six classroom in X Primary School in A City in China. X Primary School is a full-time primary school with outstanding feature on foreign language education. English is taught in small-sized class, which is consisted of 34 students. Language skills, such as listening and speaking are emphasized in the class. Various LLT materials, like textbook, PPT, teacher-generated materials, are widely used in the English class; other complementary LLT materials are often used because prescribed textbook are usually difficult and demanding. The English class is one hours every time for five times a week and consists of 48 class hours. This course adopts the assessment method of summative assessment in the form of test in the middle and final in the semester. The following table show the detailed information of English class.

#### 3.2 The Participants

The participants include one English teacher Cherry and six students (Pseudonyms have been used for confidentiality.). In order to enable them to provide maximum information for the research questions, this research selected participants through "purposeful sampling" (Denscombe, p. 34) for efficient information. Table 3 showed the derailed information about participants.

**Table 1. Information about Cherry**

Teacher participants	Gender	age	Education background	teaching age
Cherry	female	38	Bachelor degree in English major	14

**Table 2. Information about Students Participants**

Student Participants	D	W	H	Y	X	Z
Gender	female	female	male	male	female	female
age	12	11	12	13	12	12
Year of learning English	4	5	5	5	6	5
English score of last semester	106	104	108	107	103	110

### 3.3 The Role of Researcher

As a student teacher, the researcher take part in the class for four times a week. The main task of the researcher in the class is to assist Cherry for some activities and observe how the class is going. Therefore, the researcher and the participants have some similar experience, and can better understand their behavior in the class from the perspective of both the student and teacher. However, researcher did not directly participate in the participants' learning activities. Therefore, there is both a connection and a distance between the researcher and the participants. Such a role of research not only has a certain positive significance for the analysis of research findings, but also ensures the objectivity of the research.

### 3.4 Ethical Consideration

Informed consent was obtained for all participants in the study, and confidentiality was addressed by using letters to instead their true name. In order to address the issue of respondent validity, all transcriptions of interviews and lesson observations in form of classroom discourse were given to the participants to member check.

### 3.5 Data Collection

The study lasted for one semester. Data in this study semi-structured interview, classroom observations, and artifact materials (documents, text, pictures, etc.) audio and video recording of the class. Teacher's interviews were conducted according to the teachers' process of designing and implementing the curriculum. Each interview was conducted after finishing one unit of the textbook. The teacher interview were totally six times. The students' interview was designed according to six aspects: the relation between LLT materials and life, the effect of memory, learning interest, teaching methods, teacher's body language, games. The students' interview was conducted at the beginning, in the middle and at the end of the semester with a totality of 18 times, every participant three times. Classroom observations were video-recorded and audio-recorded. Observational field-notes were kept with a totality of 17 time. The artifacts materials included students' books, auxiliary PowerPoint (PPT) slides, and all the supplementary materials used in class. Data generated from these instruments were triangulated with each other to enhance the trustworthiness of the study. The following table showed a sorting a data.

**Table 3. The Sorting of Data**

Sorting of data	Totality	Purpose
Classroom observation	17 (audio-record, video-record, and field-notes), 300000 words in all	Record the classroom dynamic and interaction of teacher, students and LLT materials
Teacher and Students interview	6 (teacher interview) +18 (every student participant three times) 130000 words in all	Know about how teacher use LLT materials to design and implement embodied language teaching and its



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		effectiveness; students' attitude toward and experience in the class
Artifacts materials	148 (textbooks, PowerPoint (PPT) slides, and all the supplementary materials used in class)	Used to provide background knowledge about what and how teacher used them

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### 3.6 Data Analysis

A stepwise process of presenting and reducing the data was followed for the qualitative analysis to identify emergent patterns and themes (Miles & Huberman, 2014). In the first phase, all of the interviews and classroom observations were transcribed verbatim. The observational data, were categorized into lesson segments on the basis of the teaching activities to capture the interaction between teacher, students, and LLT materials. For instance, each lesson was first broken down into segments according to the boundaries of the activities and tasks. Then within each activity or task, the observational data, which took the form of classroom discourse, were categorized under several themes, such as learning vocabulary from shopping activities, practice listening via video materials, and speaking by telling about their daily life, sharing interesting story, etc. All of the artifact materials were categorized according to the lesson segments and further analyzed to provide readers with the background of what students did with those materials. The thick description of all data sources was employed to provide readers a much fuller picture of what is happening inside the classroom, which will in turn reinforce the trustworthiness of this study.

In the second phase, with the help of qualitative data analysis (QDA) computer software Nvivo 19, researcher read the original data repeatedly word for word, carefully ponder the meaning of the data, mark the data chunks, and try not to be interfered with by preset speculation during the analysis, so as to form a first-level coding. On this basis, researcher sought internal relationship between the various relevant elements, and summarize the relationship between the elements to form a second-level coding. Finally, through continuous comparison, further extraction of topic is summarized to form a third-level coding.

## 4. Findings

After analyzed the data, several findings are summarized. And some examples given below have been shared because they indicated how the teacher use LLT materials to guide students' language learning.

### 4.1 Using Multiple LLT Materials to Design Learning Activities

Cherry paid attention to the lead-in activities and used various LLT materials to awaken the students' bodies and arouse their interest to the topic will be learned. After analyzed the data, it is found that common materials used for lead-in activities include games, stories, songs, reappearance of scene, life

experience, video, etc. Cherry chose different materials to lead in according to different unit themes. The following is an example for lead-in activities:

**Example 1:** Sing a song: Transportation Song

Cherry: Before class, we listen to an English song. All of us stand up and clap our hands to follow the song. If you know the song, you can clap hand by yourself; if you don't know. Don't worry. You can do with me.

(All the students stand up and move their bodies with the music under the guidance of the teacher).

Lead in the topic by showing pictures of various vehicles.

Teacher: Here are some pictures in the PPT. Let's have a guess what we will learn!

(...Then ask the students to recall those vehicles according to their daily experience.) (*Field notes 6-excerpt*)

The lead-in activities focused on the movement of the body, which a relaxed and pleasant classroom atmosphere. In addition, the song is closely related to the topic of the lesson, which can attract students' attention to the class and arouse students' interest in learning. Embodied cognition theory believes that cognition related to body experience in environment. Due to the limitations of classroom, teachers cannot lead students to visit those vehicles. Therefore, the teacher uses the combination of music and pictures to create certain context, arouse students' imagination, give students good sensory experience. Then, the topic of lesson was led in naturally according to their actual life.

*4.2 Emphasizing Learners' Experience in Language Teaching*

Some objects were used in the class to show what the new words mean, especially when the nouns were learned.

**Example 2:** ...When words of vegetable, like onion, tomato, the teacher takes out a tomato and an onions, asking What's this? ... Because many students cannot pronounce the word "a" properly, the teacher shapes his hand into a trumpet shape and makes a sound similar to "ah" so that the students can remember how to pronounce it. ... The teacher showed tomatoes of different colors and sizes on the courseware to let students understand the relevant descriptions. "tomato, tomatoes, I like tomatoes" ... the students do actions while reading. (*Field notes 10-excerpt*)

When teaching new words, the teacher uses concrete objects instead of pictures to give students an intuitive and real feeling. She also enables students to master the pronunciation and structure of single words by tapping the beat with the hand, spelling words in the air, and dividing syllables with different colors. Through embodied imitation such as gestures and expressions, the teacher establishes the sound, shape and meaning of words in images. Those objects act as visual LLT materials, which provide learners embodied and authentic experience.

**Example 3:** ...I first played a video for students to watch carefully, and then showed the sentence pattern template of the dialogue.... They were asked to create dialogues according to the video and the template, role-playing the seller and customer, and use the goods I prepared to display and communicate in groups... (*Cherry's interview 3-excerpt*)

Embodied cognition theory emphasizes embodied experience. Teachers use role-play games to create the scene of shopping for students to experience, perceive and communicate. What's more, the scene of shopping comes from daily life experience. In this way, students can develop their ability to listen, speak and think independently in class, and experience the process of language learning in daily life context.

#### 4.3 Students' Attitude toward the Embodied Language Teaching

After analysis of observation data and interview, three participants show a positive attitude toward the embodied language teaching, especially those colorful LLT materials used; and three students expressed their negative attitude. The following examples are excerpts from interview data to illustrate their attitude toward role-play games.

**Example 4:** "... I don't like the role-playing games very much... it looks like a dialogue practice in the textbook...sometimes I feel it difficult to have dialogue with partner because the I don't know what's English expression of the objects prepared by teacher... Also, I am worried whether my English grade can be improved... (*W's Interview 3- Excerpt*).

**Example 5:** "...there are something I think very interesting. Cherry takes out an onion when she explains the word "onion". When I was in Grade four, the English teacher had just taught us how to read and spell the words...Also I like the role-playing games arranged by the teacher in class...dialogue exercises in the book, we usually read it. I feel boring when I just read it... But now we play the games in the class by some other objects prepared by the teacher... (*Y's interview 3-excerpt*).

From the above example, it can be found that students' different attitude toward using multiple materials for embodied teaching activities. Positively, it has been illustrated that embodied teaching activities can effectively improve their interest and confidence. However, negative attitude indicates that some practical problems. Firstly, students still feel pressure in independent oral practice--role-play games. Secondly, the LLT materials used are problematic because its' corresponding English expression is difficult. Third, its effectiveness is doubted. This suggests that there are still problems with the way teachers use materials for language teaching. It cannot take into account every student. Effective measures should be taken to avoid it in the future embodied teaching design.

## 5. Conclusion

After the practice of using various LLT materials for embodied English teaching in primary school, through analysis of classroom observation, artifacts, and interview with seven participants, there are three finding. Firstly, teacher used various kind of LLT materials to in English language teaching, including songs, video, picture, objects, games, environment to teaching English. The similar results were also find in previous studies (Engman & Hermes, 2021; Guerrettaz, 2021; Harwood, 2021; Hasegawa, 2021; Kim & Canagarajah, 2021; Matsumoto, 2021; Sert & Amri, 2021), which echoed Guerrettaz et al.'s (2021) definition of language learning and teaching materials. Second, teacher emphasized learners' embodied experience of learning language when using those LLT materials. Using LLT material from a embodied cognition perspective can activate static knowledge into students' learning experience (Zuo & Wang,

2021). Third, the current practice is still problematic. Because of the particularity of individual students, it is difficult to take every student into consideration. What's more, because of the exam-oriented education, there are still some practical problems. Meanwhile, there are some limitations in this study. First, the application of the embodied cognition theory is superficial. Second, this study takes a qualitative method to investigate the teacher's way to use various LLT materials to design embodied language teaching and students' embodied experience in learning, leaving the effectiveness of embodied language teaching unexplored. The future study can take a quantitative method to verify its practical effectiveness. In sum, although exploratory in nature, it also hopes to provide some suggestions for research on LLT material use and primary English teaching and learning.

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